

**IN THE SPECIFICATION:**

Please add the following after paragraph (0044):

(0045) Referring to Fig 1, a simulated view of the inside of an example EBA Thinking Cap which operates when positioned over a patient's head previous to treatment. There are 100 or more varying sized induction contact coils positioned for direct overhead and front/back, side/side neuron integration purposes of innovative proffered coils. In one example embodiment, three main coils include a dumbbell 15, double squared triangle 20, and triple bar circle 25 contours.

(0046) Referring to Fig. 2, an adjustable plate is situated inside the Thinking Cap top 30 and is positioned around the front, back, left and right sides. In operation, the plate is positioned one half to three quarters of an inch above the contacts/coils all around the skull area 35. The plate is a pliable conductive material about one sixteenth to one eighth inch in thickness bent in the basic underneath shape of the cap. One purpose is, by controlled contact, to be able to increase the emission field of two or more coils. Double ended arrows indicate an extended plate area. Circles indicate potential holes in the plate for coil contact areas.

(0047) Referring to Fig. 3, prongs 40 are moveable/adjustable, by the Thinking Cap is fixated and situated on the patient's head previous to treatment. There may be anywhere from 7 to 12 prongs. They are pliable and padded for comfort to the head. Adjustability distance of the coils from the skull 35 can range from one half to five inches.

(0048) Fig. 4 is an illustration of the phenomenon of directional specificity. A single coil at the vertex can stimulate tissue according to the direction. The image shows basic current flow in singularity with induced currents from one round coil hand-held above patient's head, very chaotic- quite non-specific and quasi-focus. This would be in considerable contrast to multi-emissions from a multiplicity of coil shapes via electromagnetic brain animation (EBA). Illustrated in Fig. 4 is: a single coil 45; primary current 50; secondary current 55; and direction of positive induction 60.

(0049) Fig. 5 shows multiple EBA coils in varying configurations. As shown here "dumbbell" (double squared with round holed center)- all emit a stronger, more utilizable electro-field than previous coils. The other coils are variations of the same advanced theme reference

primary/secondary/ preferred current direction. Illustrated coils are: dumbbell 65; square with hole 70; double figure eight 75; quadragon 80; and triple bar circle 85.

(0050) Fig. 6 summarizes the basic chain of events pertaining to general non-invasive processes. The induced E is strongest near the coil and typically stimulates a cortical area of a few centimeters in diameter. Pulsation causes coherent firing of magnetic field formulations in the animated area as well as altered multiple firing to synaptic input, i.e., neurotransmitter-receptor clusters. At microscopic level, E affects the nerve cells' transport voltage across brain region membrane and thereby the voltage-sensitive ion channels. Complementary brain imaging tools are used to detect the associated electrical currents and changes in blood flow of metabolism. With EBA, due to coil numbers, emission gradients, and configurations there would be exponential intra/extra variations throughout the procedure resulting in the animation coagulation.

(0051) Fig. 7 shows differentiation between early childhood development habituation and highest plasticity relating to critical time for peak window of opportunity pertaining to maximum success via EBA intervention assisting facilitation of neuron evolution. Generation is at its most sensitive to outside inducement relating to such as dendrites, spines, cell bodies, myelin sheaths, axons, synapses, i.e., the continuum of nerve construction.

(0052) Referring to Fig. 8, the ratio of the transverse and gradient field mechanisms is independent of the axon size. A schematic illustration of activation mechanisms and axon membrane polarization in a transverse field is shown for varying external applications of electric field patterns. The axon membrane polarization is sketched for different externally applied electric field patterns (arrows): (a) identical E down the axon, no variation from the resting status (b) gradient initiation (c) crooked axon in uniform E, depicting only the gradient activation; (d) transverse activation, with E locally across the axon; (e) axon concluding in uniform E. D and H signify depolarization and hyper-polarization, in that order. Implicit indication is then given that E is indistinguishable outside and inside the cells.

(0053) Fig. 9 are plots of focality in cm versus number of coils for different coil diameters and illustrates the use of multiple independently controlled animating coils. It has any number of advantages of over standard one coil or figure-of-eight coil stimulation. One can excite/animate numerous loci at the same time, or at delaying or varying times. With EBA, the operator can concentrate two or more coils at one locations and/or multiple locations with any number of cross configurations. In addition, the smaller the coils in combination with the multiplicity of

coils relates directly to the size and specificity of the focality of animation induction. Below gives indication of smaller focal points directly correlated with size and number of coils.

(0054) Fig. 10 illustrates an outer view of the Thinking Cap. Shown are adjustable prongs, adjustable chin stability assistance, and other named parts of instrumentation relating to the ultrasound attachments. Validation of localized stimulation of active (nerve or cortical) tissue by ultrasonically induced electric fields relates directly toward analytical solutions that pertain to the field distribution which can be derived for an ideally collimated ultrasonic beam. As an example, an ion in a conducive medium, with charge  $q$  (this is in italics). The longitudinal particle motion of an ultrasonic wave with cause the ion to oscillate back and forth in the medium of velocity  $v$ . In the presence of a constant magnetic field,  $B(0)$  (this is subscript), the ion is subjected to the Lorentz force  $F = qv \times B(0)$  (1) This produces an electric current density given by  $J(0)$ (this is subscript)  $= n+u+ = n.u.)F$ . Illustrated are: a thinking cap cover or casing 90 which includes power relays to the coils; power transference conduit 95 to multiple coils; inclusive cable to main power 100; an ultrasound induction attachment 105.

(0055) Figure 11 illustrates the initial treatment modality relating to EBA/US whereas ultrasonic waves vibrating at frequencies greater than 20,000 cycles per second are integrated through the human/patient's skull and into an excitation focal area (in this case the "limbic system" due to manifestation of "overanxious disorder"). The sonographic induction causes initial 1st phase animation to enmesh targeted organicity bringing multiple neuron structure to hypersensitive pre-threshold status.